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**Prevalence of rotator cuff strength patterns and their relationship to anterior glenohumeral instability.**

**Edward J. Reynolds, DC, DABCO, Sildic C. Chan, DC, CCSP, Soft Tissue Center, Los Angeles, CA.**

**LEONARD N. SCHROEDER AWARD FOR BEST ORIGINAL RESEARCH**

**Purpose:** The purpose of this study was to evaluate rotator cuff strength patterns and their relationship to anterior glenohumeral instability. **Methods:** Originally 105 patient files with 111 shoulder complaints were evaluated for a a working diagnosis of anterior glenohumeral instability (AGHI). This working diagnosis was given by 1 of 10 chiropractors who performed a complete history and evaluation. This patient sample came from a 1-yr study of patients presenting to this facility with shoulder complaints. The sample size was reduced to 48 patients who clinically demonstrated anterior glenohumeral instability. The following muscles were tested in two positions: supaspinatus with the patient standing and the shoulder at 30 degrees of abduction and 0 degrees rotation (S30), and sidelying with 45 degrees of abduction with 0 degrees rotation (S45). The infraspinatus and teres minor were tested at 0 degrees of abduction and rotation (IT) and 90 degrees of abduction and lateral rotation (IT90), and the subscapularis with the patient seated and the shoulder at 0 degrees abduction and rotation (SC) and 90 degrees of abduction and 0 degrees rotation (SC90). Weakness was defined as a muscle demonstrating 5-/5 or less when manually muscle tested. The data were correlated between each case of clinically diagnosed AGHI and individual muscle test. **Results**: The data comparing rotator cuff weakness with AGHI were as follows: S30 (64%); S45 (52%); IT90 (50%); IT (24%); SC90 (17%); and SC (16%). **Conclusion:** The S30 manual muscle test demonstrated the greatest statistical tendency for weakness in the presence of clinically diagnosed AGHI. This was followed by, in descending order, S45, IT90, SC90, and SC. There seems to be a moderate correlation between AGHI and individual rotator cuff weakness. This study points to the necessity of testing of all the rotator cuff muscles in more than one anatomical positon.

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